

ABSTRACT

Wavelength interleaving cross-connects pass a first optical signal including a first set of optical frequencies in a first direction and a second optical signal including a second set of optical frequencies in a second direction. In one embodiment, the first optical signal, when input to a first input/output (I/O) port, is routed from the first I/O port to a third I/O port. The first optical signal, when input to a fourth I/O port, is routed from the fourth port to a second I/O port. The second optical signal, when input to the second I/O port, is routed from the second I/O port to the third I/O port. The second optical signal, when input to the fourth I/O port, is routed from the fourth I/O port to the first I/O port. Thus, by coupling an optical device (e.g., amplifier, filter) between the third port and the fourth port, the optical device can be used for bi-directional communications thereby reducing the number of devices required for a bi-directional optical network architecture.

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Wavelength interleaving cross-connects pass a first optical signal including a first set of optical frequencies in a first direction and a second optical signal including a second set of optical frequencies in a second direction. In one embodiment, the first optical signal, when input to a first input/output (I/O) port, is routed from the first I/O port to a third I/O port. The first optical signal, when input to a fourth I/O port, is routed from the fourth port to a second I/O port. The second optical signal, when input to the second I/O port, is routed from the second I/O port to the third I/O port. The second optical signal, when input to the fourth I/O port, is routed from the fourth I/O port to the first I/O port. Thus, by coupling an optical device (e.g., amplifier, filter) between the third port and the fourth port, the optical device can be used for bi-directional communications thereby reducing the number of devices required for a bi-directional optical network architecture.